IN-DEPTH INSPECTION REPORT

P.I.N. X051.59

ELEMENT SPECIFIC BRIDGE WORK

B.I.N. 1076610

TEAM LEADER IAN PETERSEN 106776
NYSPE LICENSE #

ASSISTANT TEAM LEADER SEBASTIAN MERCADO

FEATURE CARRIED Grand Central Parkway - Westbound C-D

FEATURE CROSSED Southbound Cross Island Parkway

DATE FIELD WORK BEGAN 1/17/23

DATE FIELD WORK COMPLETED 1/30/23

TABLE OF CONTENTS

DISCLAIMER

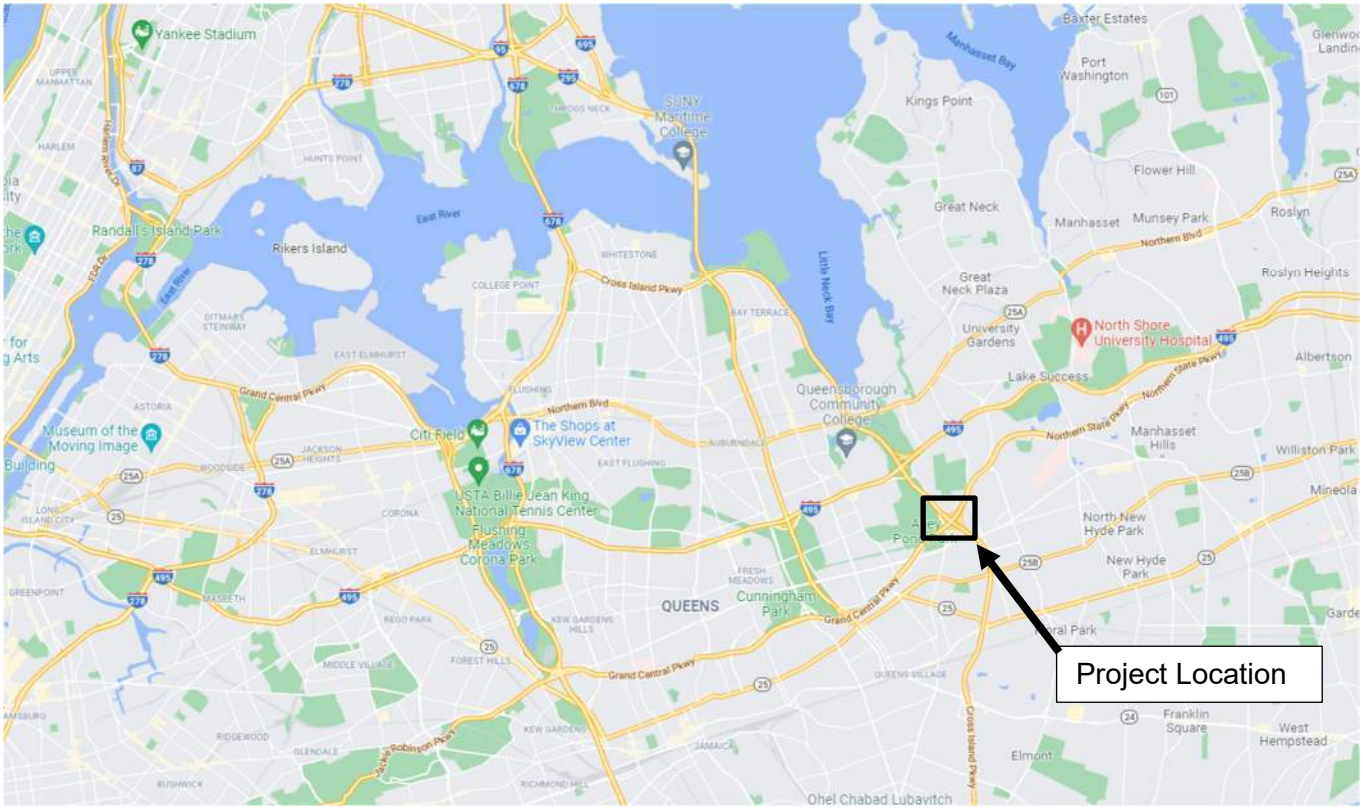
This inspection report is based on data and conditions that were generally applicable as of January 2023 and the conclusions and recommendations herein are therefore applicable only to that timeframe. This report should not be used as the sole basis for the preparation of rehabilitation or repair plans, construction, or remedial action, or as a basis for major capital decisions.

SCOPE OF WORK

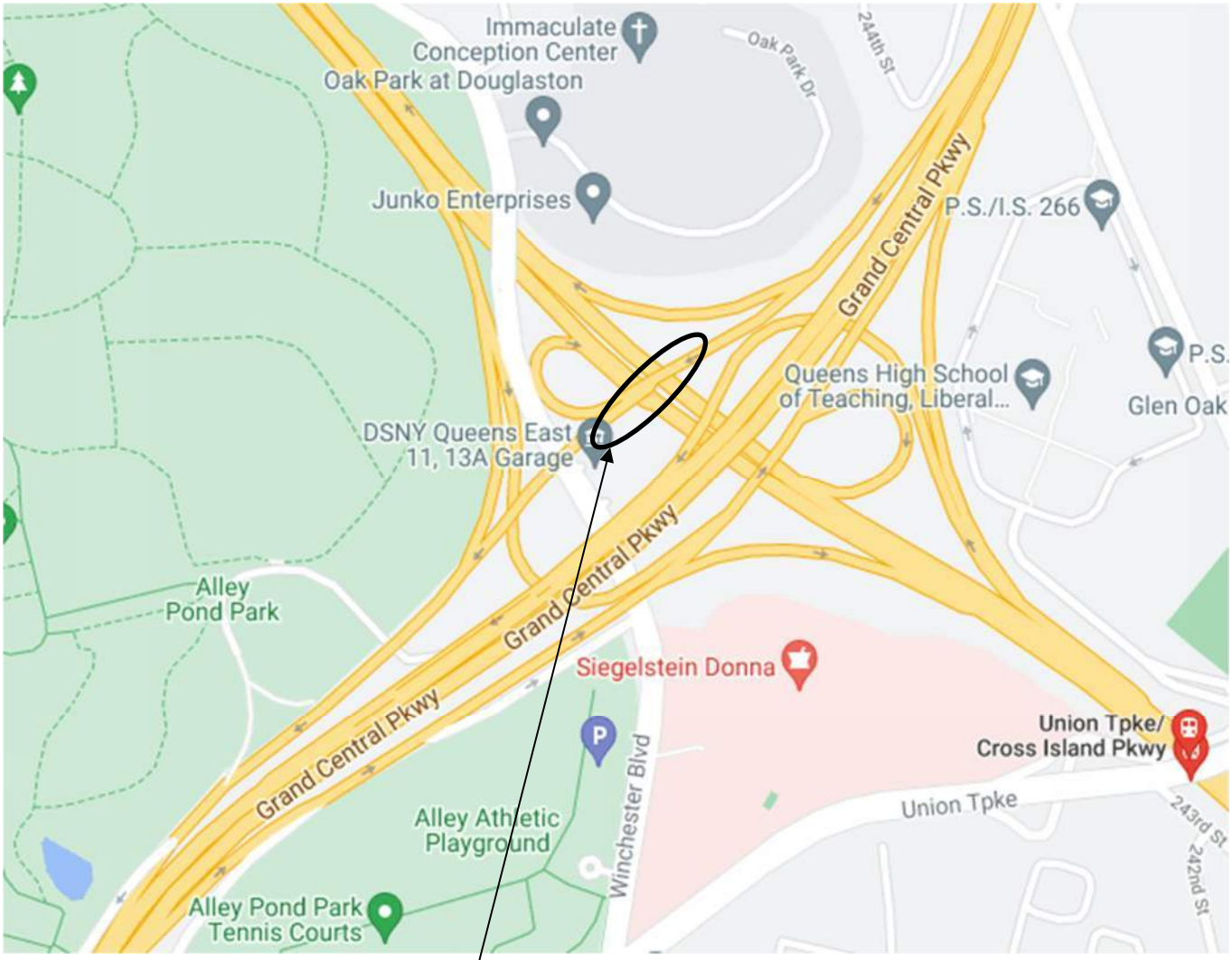
An in-depth inspection has been performed on the following structures: BIN 1076610

The intent of this inspection is to perform a high-quality study detailing the condition of the bridge and to document the findings for easy reference.

PROJECT LOCATION MAP

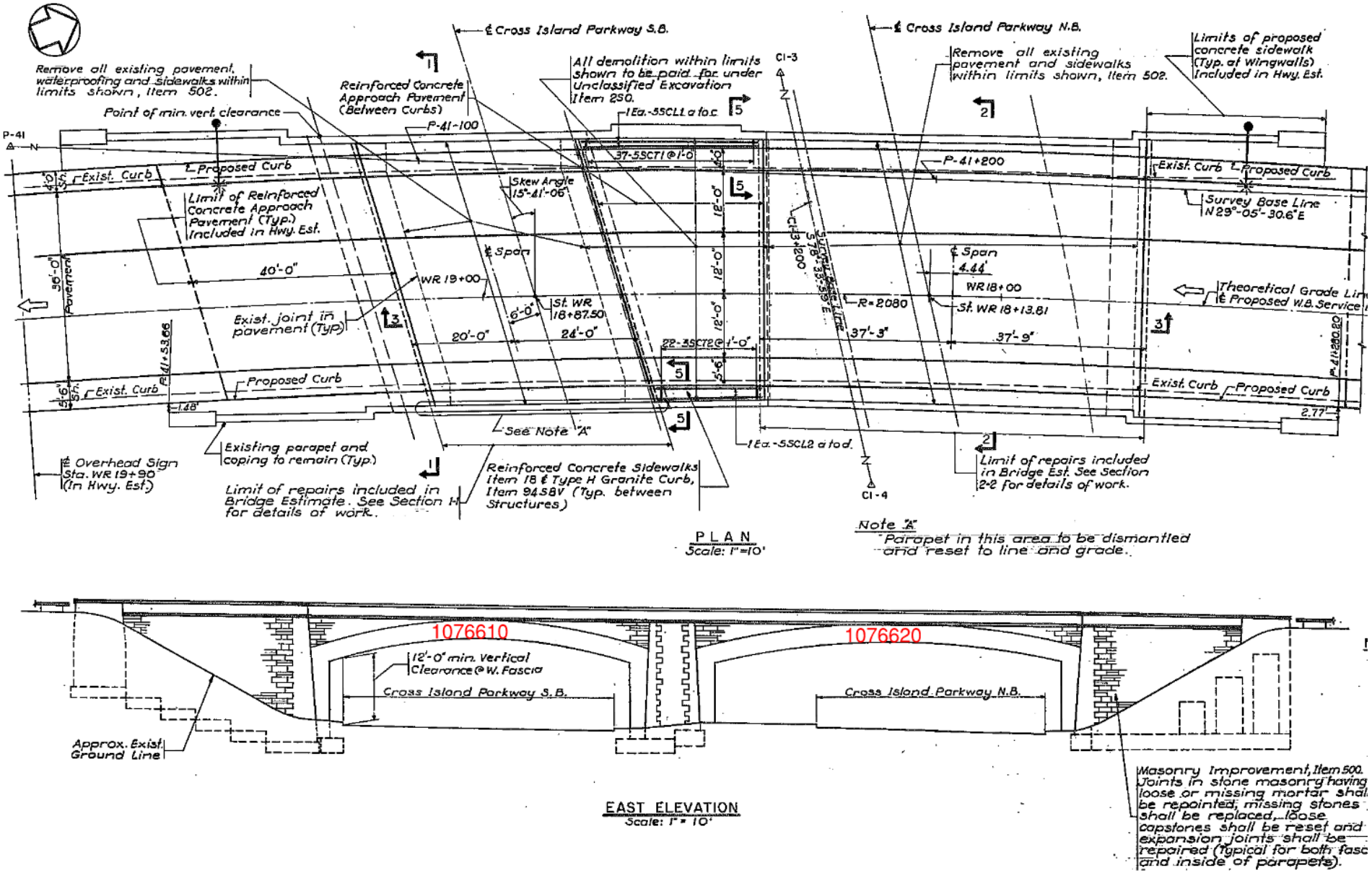


BRIDGE SITE



BIN: 1076610
Grand Central Parkway Westbound C-D
Over Cross Island Parkway

EXISTING BRIDGE SECTION



For Reference Only

STRUCTURE IDENTIFICATION

a.	Bridge Identification Number (BIN):	1076610
b.	Reference Marker:	NA
c.	Region:	NYSDOT Region 11
d.	County:	Queens
e.	Town:	Queens
f.	Feature Carried:	Grand Central Parkway Westbound C - D
g.	Feature Crossed:	Cross Island Parkway

INTRODUCTION

The Grand Central Parkway Westbound C-D bridge was originally built in 1939 and underwent rehabilitation in 1972, it carries vehicles over the Cross Island Parkway Southbound in Queens County, New York. The bridge is a single span, concrete, and masonry arch. The span length of the bridge is 54 feet, and the width of the bridge is 54 feet. The bridge carries 3 lanes of Westbound traffic.

An in-depth bridge condition inspection of the underside of deck was performed on January 18 and January 26, 2023, with a top of deck inspection being performed on January 17 and January 30, 2023, by engineers from Michael Baker Engineering, Inc. The bridge was accessed from the ground and bucket truck with work zone traffic control on the Southbound Cross Island Parkway and the Westbound C-D provided by Constar, a subcontractor of the NYSDOT. All substructure, superstructure and approach elements were inspected, photographed, and evaluated for condition and function. A complete description of the inspection findings is included in the Condition Evaluation section of this report.

INSPECTION PERSONNEL

Qualifications (experience, certifications, and training) and responsibilities of bridge inspectors shall be in accordance with Section 165.5. (a)(1) of the Uniform Code of Bridge Inspection and the NBIS.

DATE OF INSPECTION

Date	Time	Inspection Description
1/17/2023	9:00 AM – 2:00PM	Top of Deck left and center lane (Northside)
1/18/2023	10:00 PM – 5:00 AM	Underside of deck over S/B CIP left and center lane
1/26/2023	10:00 PM – 5:00 AM	Underside of deck over S/B CIP right and center lane
1/30/2023	9:00 AM – 2:00PM	Top of Deck left and center lane (Northside)

IN-DEPTH CONDITION DOCUMENTATION

Fascia: Both the North and South Fascia exhibit minor cracks and deterioration along the arch and ring stones. The North side exhibits small areas where stone pointing is missing up to 3 LF, 12" x 2" of erosion in the 11th ring stone (from the End Abutment), 8 LF by up to 1/4" crack along ring stone 17-23 (from the Begin Abutment) with 1 SF hollow areas on all ring stones around the crack, and up to 50% of the ring stones exhibit erosion up to 2" along the bottom of the arch. The South side exhibits a 5' L x 2" w x 4" deep crack above ring stones 5-8 (from the Begin Abutment), pointing loss in the East side of the South fascia, and up to 50% of the ring stones exhibit erosion up to 3" along the bottom of the arch. (See Photos 1 and 2)

Abutments: Both the Begin (West) and End (East) abutments have similar geometry and solid backwall with footing founded on earth. There are wingwalls, constructed parallel to the roadway in a U-wall configuration and constructed monolithic with the abutment. The Begin (West) and End (East) abutments have a skew of approximately 16 degrees. The overall length of the Begin (West) and End (East) abutment is 54 feet. The backwall height for both the Begin (West) and End (East) abutments is 11'-0".

Both abutments are still in fair condition and fully functional. The Begin (West) Abutment exhibits a 25 SF hollow area with an approximately 5 SF spall with no exposed rebar located in the Southwest corner (no loose concrete), multiple hollow areas up to 4 SF in the South side near the roadway, multiple full height cracks up to 1/16", a 9 SF and a 6 SF hollow section in the North side approximately 16 feet from the North fascia, and small hollow section up to 1.5 SF in the North side near the arch. The End (East) abutment exhibits a 9 SF hollow section approximately 15 feet South of North Fascia near roadway, a 8 SF hollow section near South fascia approximately 2 feet above roadway, multiple cracks up to 8 LF and 1/16" in width. (See Photos 3-5)

Wingwalls: The wingwalls are about 24 ft. high at both abutments and run approximately parallel to the roadway. They extend approximately 20'-0" from the abutments in both quadrants for the Begin (West) abutment and 30'-0" on the North side and 20'-0" on the South side for the End (East) abutment. The End (East) abutment of bridge 1076610 shares the wingwalls with the Begin (West) of bridge 1706620. The wingwalls are completely solid and in good condition.

Approach Embankment / Drainage: The approach roadway to the bridge is approximately 61 feet in length. There is no evidence of excessive settlement of the embankment or roadway. The roadways appear to drain expediently, and no areas of standing water or localized low areas were observed on the bridge or along either approach.

One drainage catch basin exist along the Southside of the Begin approach approximately 65 feet West of Begin joint. Catch basin appears partially clogged with heavy debris in area. (See Photo 6)

Approach Pavement / Wearing Surface: The asphalt approach pavement exhibits a 4.5 SF hollow section in the left lane approximately 30 feet West of the Begin Joint. Along the Begin (West) abutment joint exhibits deterioration and fraying of joint filler. The joint at midspan exhibits a 10 SF hollow section with 0.5 SF spall about 7' North of South curb, a 7 SF hollow area in the right lane approximately 9 feet West of End joint and 15 feet South of the North curb, and a 5 SF hollow area located 6 feet East of End joint. (See Photos 7-9)

Joints: The sealant on both the Begin (West) and End (East) abutment are beginning to dry out, deteriorate and fray. The cracks that are located on the underside of the center joint may be a result of joint failure allowing water to seep into the arch. (See Photos 10)

Vertical Clearance: The vertical clearance has not changed since the previous inspection report. **See attached vertical clearance in Appendix A.**

Parapets/Railings: The parapets are in fair condition with multiple areas of stone wearing away and small areas where pointing is missing. All signs of railing post impact have been replaced/ repaired since last

inspection. (See Photo 11)

Paint: Paint peeling was noted on the face of the abutments. Paint peeling and paint loss is exhibited over approximately 50% of abutment face. (See Photo 12)

Underside of Arch: The Underside of the bridge exhibits a 12 LF by 1/16" crack at midspan of bridge with no hollow sound, a 1 SF spall with exposed rebar over the left lane near the South fascia, multiple long cracks up to 14 LF by 1/16" with efflorescence are exhibited over the middle lane, a 1.5 SF hollow area located near midspan over middle lane, a 8 SF and a 3 SF hollow section located on South side against South fascia. (See Photos 13-16)

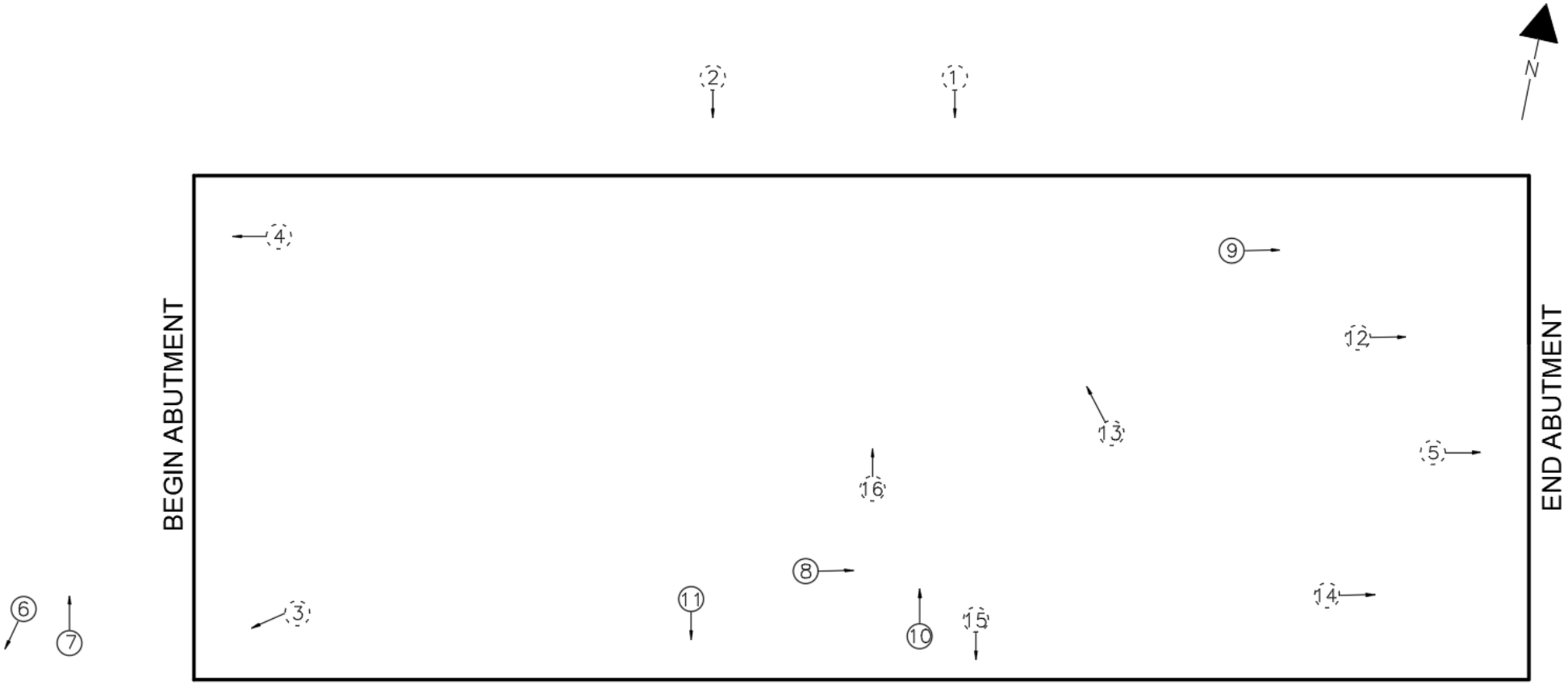
See the Arch Condition Sketch in Appendix A, for detailed locations of deck spalling, cracking and other deterioration.

IN-DEPTH PHOTO DOCUMENTATION

IN-DEPTH INSPECTION PHOTO LOCATION PLAN

Grand Central Parkway Westbound C-D

Inspection Date: 1/17/2023



BIN: 1076610

LEGEND:

◯ - PHOTO TAKEN ABOVE DECK

◌ - PHOTO TAKEN BELOW DECK

PHOTO LOCATION PLAN

(NOT TO SCALE)

PHOTO: 1 **LOCATION:** North Fascia at midspan
DESCRIPTION: 9 LF crack up to 1” wide and 3/4" deep with 1 SF hollow Areas on seven (7) ring stones looking South

PHOTO: 2 **LOCATION:** North Fascia at midspan
DESCRIPTION: Deterioration of bottom portion of ring stone up to 2” on approximately 60% of stones looking South

PHOTO: 3 **LOCATION:** Begin abutment Southwest Corner
DESCRIPTION: 25 SF hollow area with 5 SF spall with no exposed rebar Looking Southwest

PHOTO: 4 **LOCATION:** Begin abutment Northwest Corner
DESCRIPTION: 0.5 SF spall with exposed rebar measured at 5/16" thickness, Looking West

PHOTO: 5 **LOCATION:** End Abutment 15 feet South of North Fascia
DESCRIPTION: Abutment exhibits a 9 SF hollow area with no loose concrete, Looking East

PHOTO: 6 **LOCATION:** Catch Basin West of Begin Abutment
DESCRIPTION: Catch Basin exhibits partial clogging with heavy debris Looking Southwest

PHOTO: 7 **LOCATION:** Begin approach 30 feet West of Begin Joint
DESCRIPTION: 4.5 SF hollow area in left lane, no loose concrete
Looking North

PHOTO: 8 **LOCATION:** Mid span joint left lane
DESCRIPTION: 10 SF hollow area with 0.5 SF spall along midspan joint
Looking Northeast

PHOTO: 9 **LOCATION:** Right lane 9 feet West of End abutment joint
DESCRIPTION: 7 SF hollow area, no loose concrete
Looking East

PHOTO: 10 **LOCATION:** Midspan joint near left lane
DESCRIPTION: Joint filler deterioration and fraying allowing water seepage
Looking North

PHOTO: 11 **LOCATION:** South Parapet interior face at End abutment joint
DESCRIPTION: Multiple locations exhibit loss of stone due to weathering Up to 3" in 20-30 stones. Looking Southeast

PHOTO: 12 **LOCATION:** End Abutment
DESCRIPTION: Paint peeling and paint loss exhibited over 50% of face Looking East

PHOTO: 13 **LOCATION:** Midspan over Left and Center lane
DESCRIPTION: Multiple cracking with heavy efflorescence exhibited over 9 LF
Looking Northwest

PHOTO: 14 **LOCATION:** At End Abutment near South Fascia
DESCRIPTION: Underside exhibits 1 SF spall with exposed rebar
Looking East

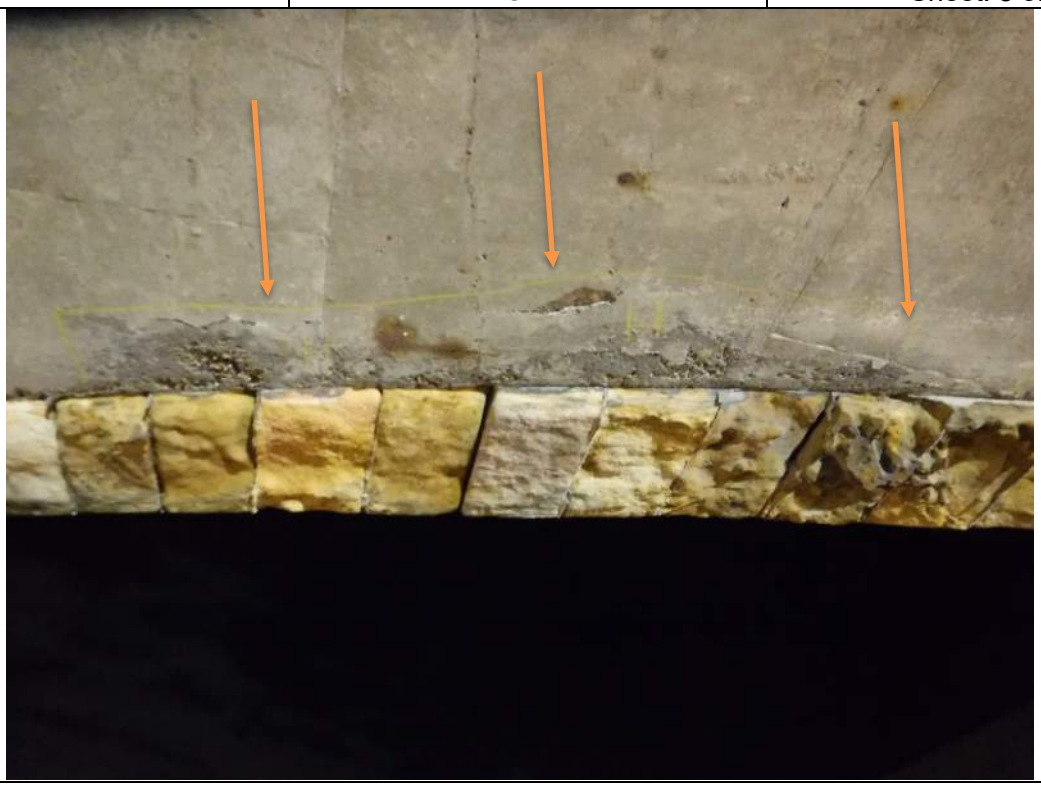
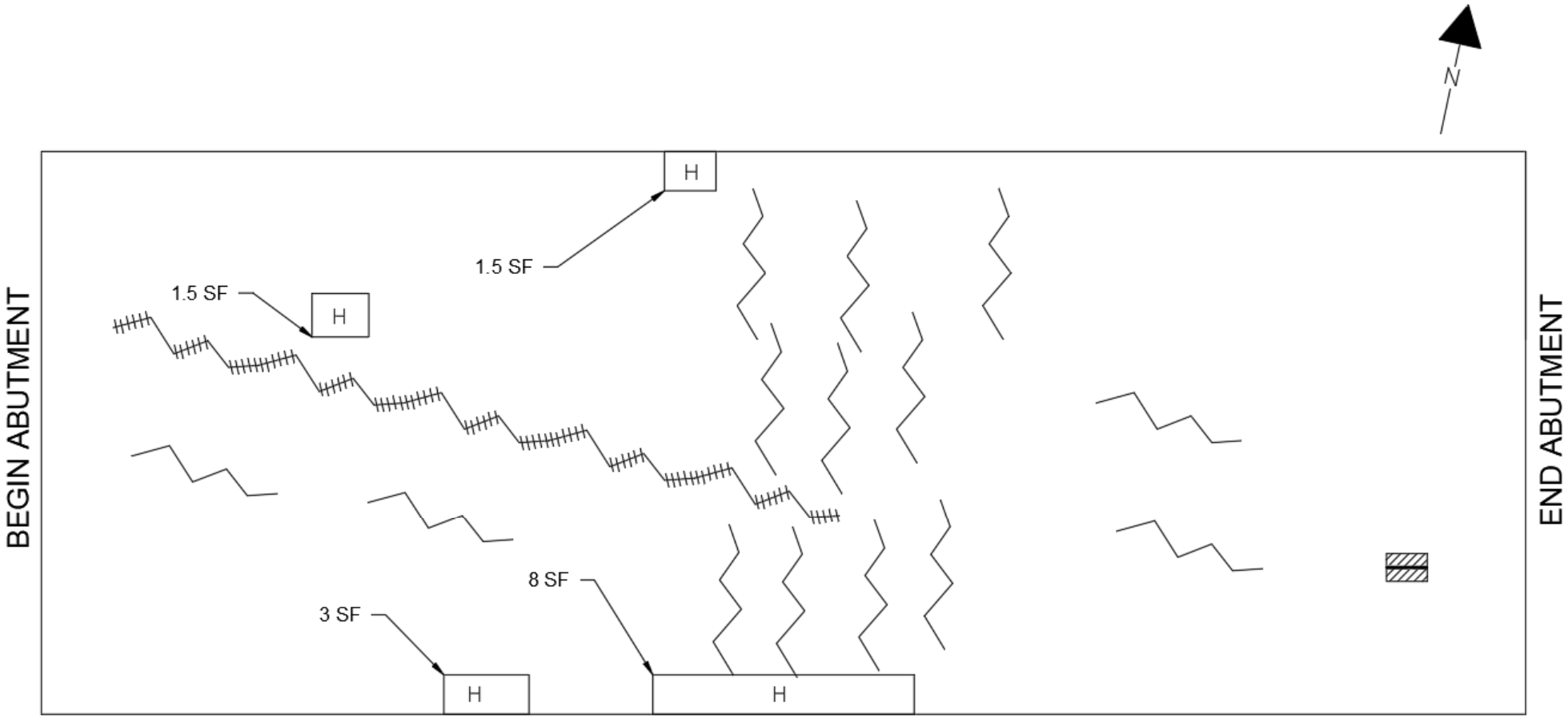


PHOTO: 15 **LOCATION:** Midspan at South Fascia
DESCRIPTION: Underside of deck exhibits a 8 SF hollow area at ring stone Looking South

PHOTO: 16 **LOCATION:** Midspan over middle lane
DESCRIPTION: Underside of deck exhibits multiple cracks across midspan Looking North

APPENDIX A

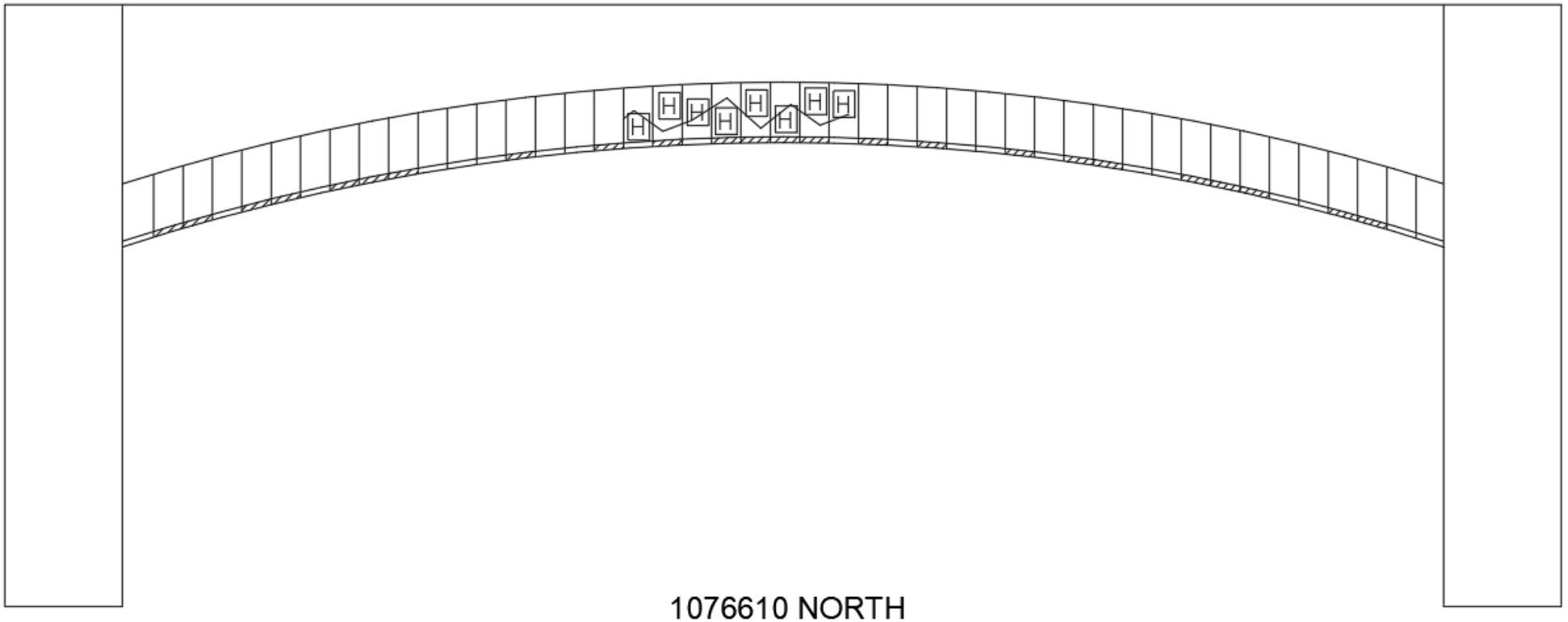
STRUCTURAL ARCH CONDITION



1076610 UNDERSIDE OF ARCH

LEGEND:

H	HOLLOW SOUNDING CONCRETE		FINE CRACK
	SPALL		FINE CRACK WITH EFFLORESCENCE
	SPALL WITH EXPOSED REBAR	MC	MAPCRACKING



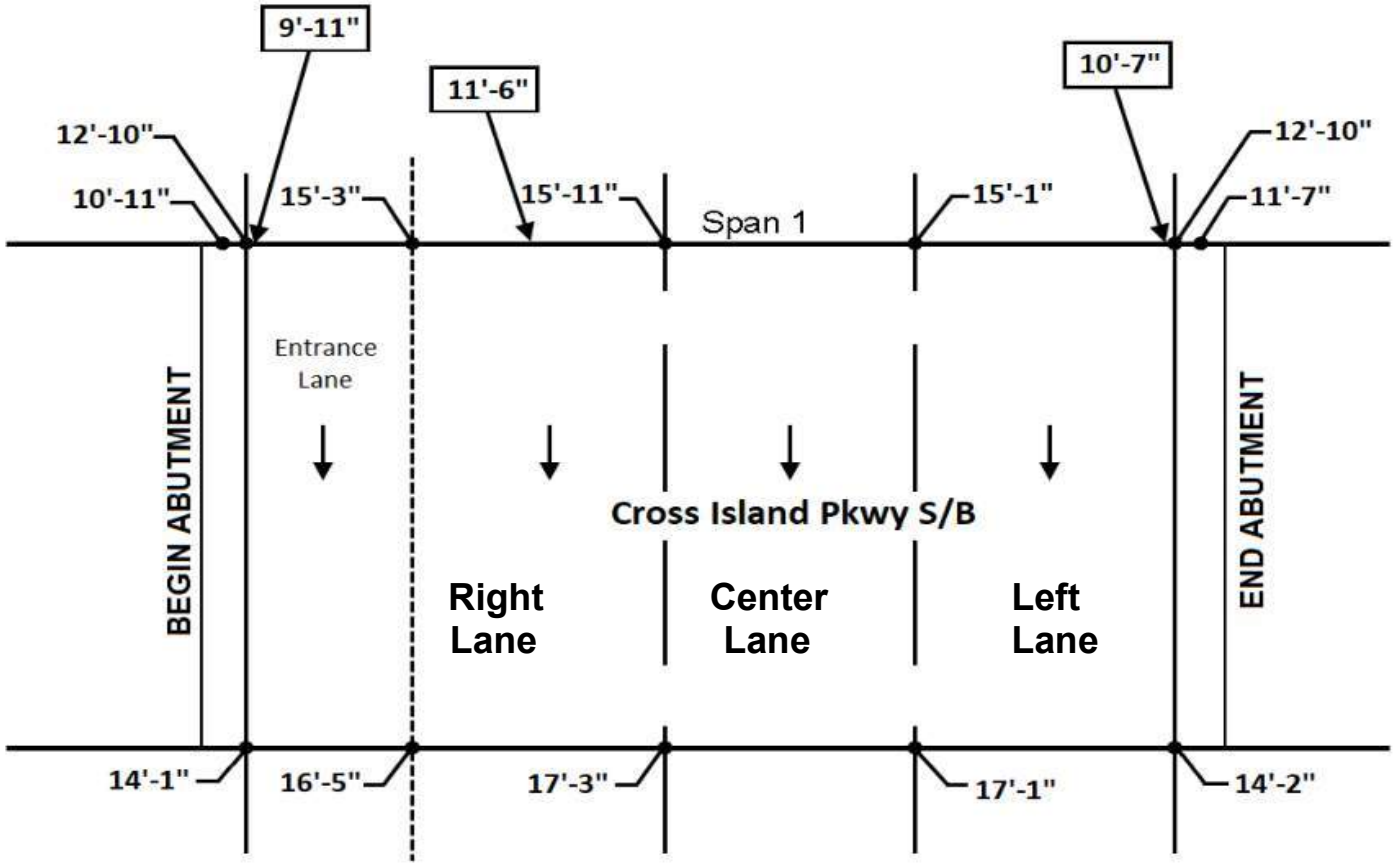
1076610 NORTH
FASCIA ELEVATION

LEGEND:

H	HOLLOW SOUNDING CONCRETE		FINE CRACK
	SPALL		FINE CRACK WITH EFFLORESCENCE
	SPALL WITH EXPOSED REBAR	MC	MAPCRACKING

VERTICAL CLEARANCES

BIN 1076610

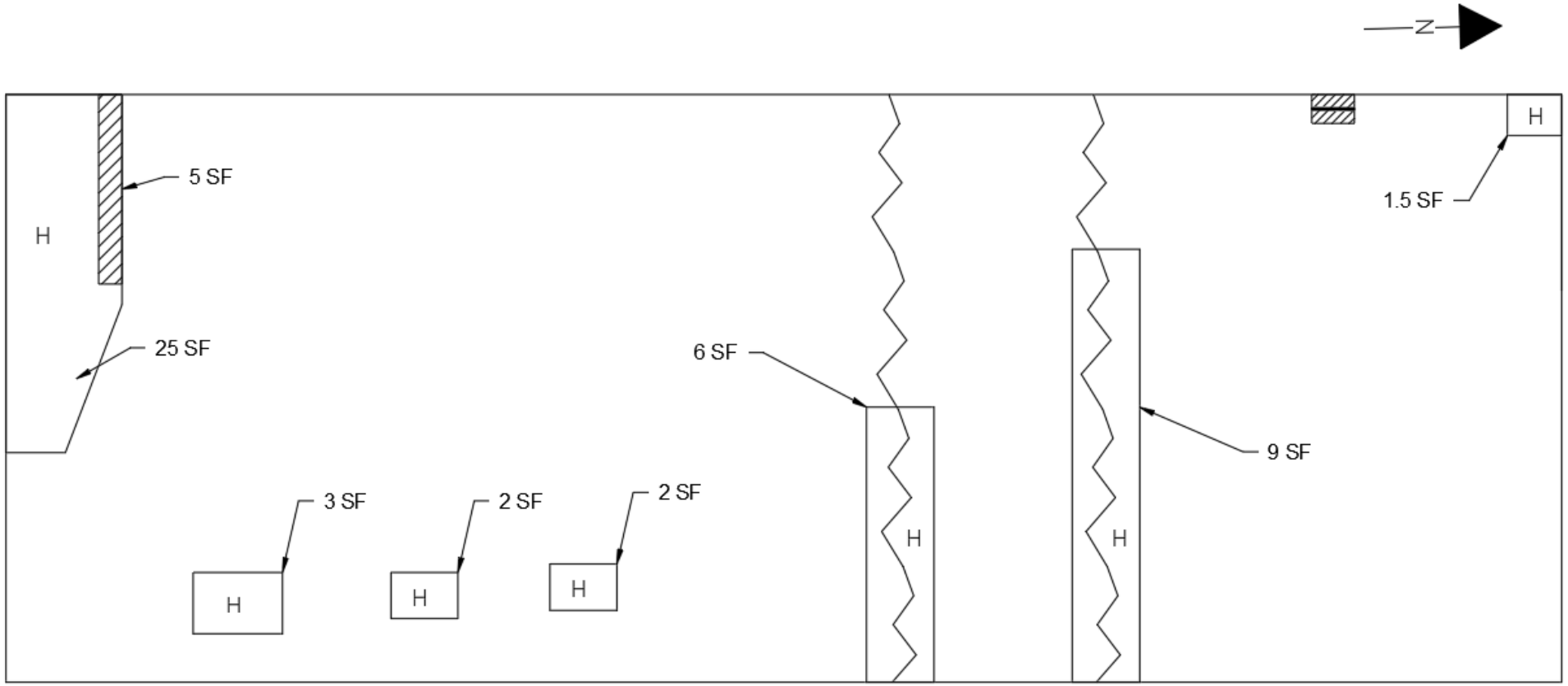


Vertical Clearance
(N.T.S)

Legend

Posting

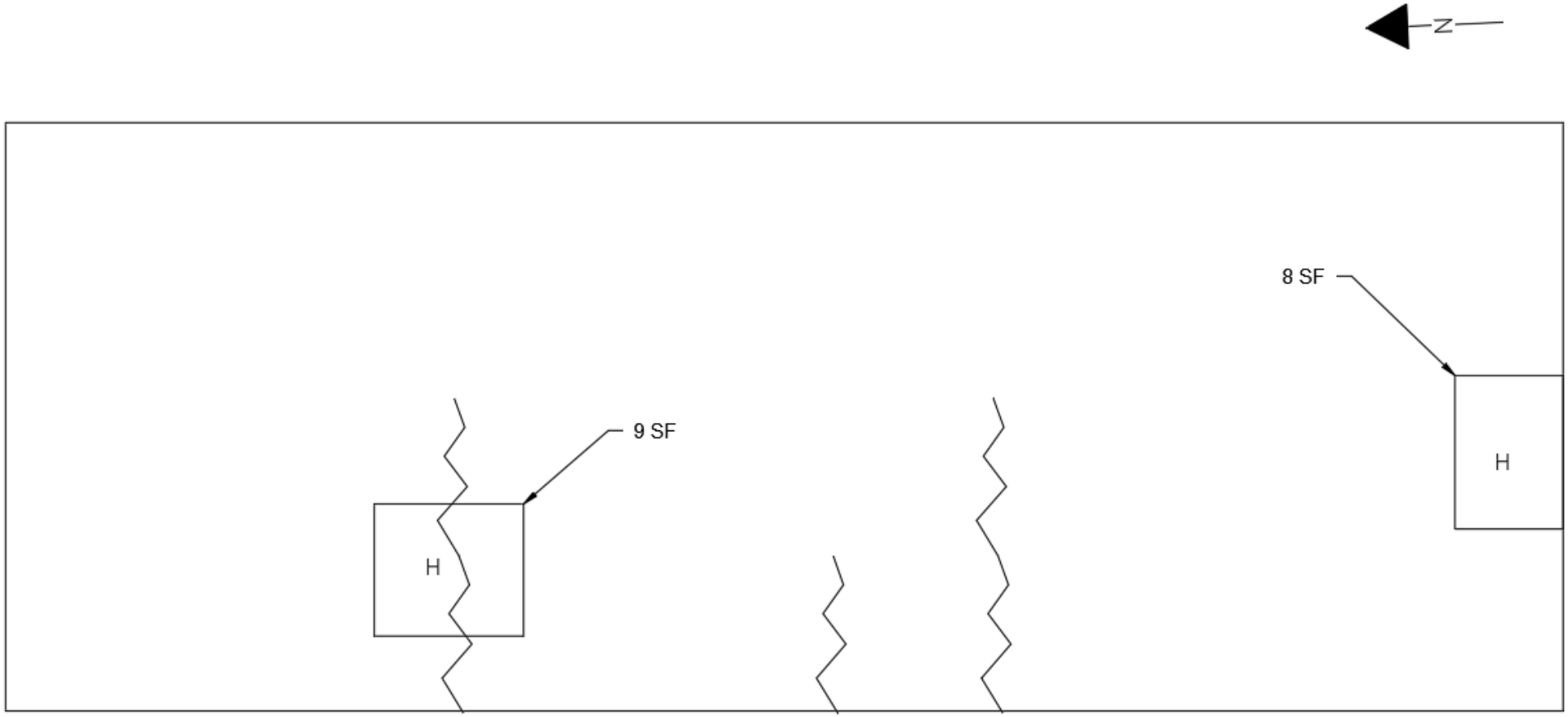
ABUTMENT CONDITION



BEGIN ABUTMENT
(LOOKING WEST)

LEGEND:

H	HOLLOW SOUNDING CONCRETE	⌇	FINE CRACK
▨	SPALL	MC	MAPCRACKING
▨	SPALL WITH EXPOSED REBAR		



END ABUTMENT
(LOOKING EAST)

LEGEND:

H	HOLLOW SOUNDING CONCRETE	⌇	FINE CRACK
▨	SPALL	MC	MAPCRACKING
▨	SPALL WITH EXPOSED REBAR		

APPENDIX B

LATEST BIENNIAL INSPECTION REPORT

REPORTING PROCEDURE

Condition State	Condition Type	Type General Condition Guideline
CS-1	Good	That portion of the element that has either no deterioration or the deterioration is insignificant to the management of the element, meaning that portion of the element has no condition based preventive maintenance needs or repairs. Areas of an element that have received long lasting structural repairs that restore the full capacity of the element with an expected life equal to the original element may be coded as good condition.
CS-2	Fair	That portion of the element that has minor deficiencies that signify a progression of the deterioration process. This portion of the element may need condition based preventive maintenance. Areas of the element that have received repairs that improve the element, but the repair is not considered equal to the original member may be coded as fair.
CS-3	Poor	That portion of the element that has advanced deterioration but does not warrant structural review. This portion of the element may need condition based preventative maintenance or other remedial action.
CS-4	Severe	That portion of the element that warrants a structural review to determine the effect on strength or serviceability of the element or bridge; OR a structural review has been completed and the defects impact strength or serviceability of the element or bridge; OR a condition where that portion of the element is no longer effective for its intended purpose.
CS-5	Unknown	That portion of the element not assessable due to lack of access.

New York State Department of Transportation
General Bridge Inspection Report

Inspection Date: January 21, 2022

Structure Information

BIN: **1076610**
Feature Carried: 907M 907MX5C13D03
Feature Crossed: 907A 907AX5M22128
Orientation: 2 - NORTHEAST
Region: 11 - NEW YORK CITY
County: QUEENS
Political Unit: City of NEW YORK
Approximate Year Built: 1972

Primary Owner: New York State Department of Transportation
Primary Maintenance Responsibility: 12 - State - Subcontracted to another Party
General Type Main Span: 1 - Concrete, 07 - Frame
This Bridge is not a Ramp
Number of Spans: 1

Postings

Posted Load Matches Inventory: Yes
Posted Load in field: Not Posted
Posted Vertical Clearances Match Inventory: Yes
Inventory On: Not Posted
Inventory Under: 9 Feet 11 Inches

Number of Flags Issued

Red PIA: 0
Red: 0
Yellow: 0
Safety PIA: 0

New York State Inspection Overview

General Recommendation: 5

Federal NBI Ratings

NBI Deck Condition: 6
NBI Superstructure Condition: 6
NBI Substructure Condition: 6
NBI Channel Condition: N
NBI Culvert Condition: N

Action Items

Non-Structural Condition Observations noted: YES
Vulnerability Reviews Recommended: NO
Diving Inspection Requested: NO
Further Investigation Requested: NO

Inspector & Reviewer Signature Information

Inspection Signature: Shahzad Hassan, P.E. 084559-1 *Date:* March 01, 2022
Review Signature: Muhammad Khan, P.E. 088118-1 *Date:* March 08, 2022
Processed by : Johnbull Bello, P.E. 084464-1 *Date:* March 15, 2022

Report Printed: April 18, 2022 10:46:53 AM

Additional Information

Overloads Observed

No overload vehicles observed during this inspection.

Notes to Next Inspector

None

Improvements Observed

None

Pedestrian Fence Height

None

Snow Fence

None

Bin Plate Condition

OK

Scour Critical Rating

N - Bridge not over waterway.

Field Notes

Staff Present During Inspection		
Name	**Title**	**Organization**
Abdoulaye Gueye	ATL Trainee	Thornton Tomasetti
Shahed Khan	ATL	Thornton Tomasetti

General Equipment Required for Inspection*
Access Type
13 - Walking
19 - Up to 30 Foot Lift
29 - Lane Closure With Shadow Vehicle

*** For span specific equipment requirements refer to the Active Inventory's "Access Needs" tab in BDIS.**

Detailed Time & Weather Conditions				
Field Date	**Arrival**	**Departure**	**Temp (F)**	**Weather Conditions**
01/18/2022	08:00 AM	11:30 AM	31	Party Cloudy
01/21/2022	08:00 AM	11:30 AM	27	Partly Cloudy

Inspection Times (hours)	
Time required for travel, inspection and report preparation	10
Lane closure usage	3
Railroad flagging time	No

Element Quantities

Element Assessment Summary Table							
Element	**Total Quantity**	**Unit**	**CS-1**	**CS-2**	**CS-3**	**CS-4**	**CS-5**
38 - Reinforced Concrete Slab	3323	SQUARE_FOOT	499	2629	195		0
215 - Reinforced Concrete Abutment	112	ft	98	10	4		0
220 - Reinforced Concrete Pile Cap/Footing	218	ft					218
321 - Reinforced Concrete Approach Slab	1820	SQUARE_FOOT	1638	182			0
334 - Masonry Bridge Railing	124	ft	62	60	2		0
510 - Wearing Surfaces	2821	SQUARE_FOOT	2528	268	25		0
800 - Erosion or Scour	218	ft	218				0
810 - Sidewalk	298	SQUARE_FOOT	269	29			0
811 - Curb	124	ft	112	12			0
853 - Wingwall	106	ft	101	5			0

Element Assessment by Span							
Element**	**Total Quantity**	**Unit**	**CS-1**	**CS-2**	**CS-3**	**CS-4**	**CS-5**
Span Number : 1							
BA215 - Reinforced Concrete Abutment	56	ft	47	5	4		0
BA220 - Reinforced Concrete Pile Cap/Footing	56	ft					56
BA321 - Reinforced Concrete Approach Slab	1820	SQUARE_FOOT	1638	182			0
BA800 - Erosion or Scour	56	ft	56				0
BW220 - Reinforced Concrete Pile Cap/Footing	106	ft					106
BW800 - Erosion or Scour	106	ft	106				0
BW853 - Wingwall	106	ft	101	5			0
EA215 - Reinforced Concrete Abutment	56	ft	51	5			0
EA220 - Reinforced Concrete Pile Cap/Footing	56	ft					56
EA800 - Erosion or Scour	56	ft	56				0
38 - Reinforced Concrete Slab	3323	SQUARE_FOOT	499	2629	195		0
510 - Wearing Surfaces	2821	SQUARE_FOOT	2528	268	25		0
334 - Masonry Bridge Railing	124	ft	62	60	2		0
810 - Sidewalk	298	SQUARE_FOOT	269	29			0
811 - Curb	124	ft	112	12			0

** Elements with a prefix designate the locations of BA-Begin Abutment, BW-Begin Wingwall, EA-End Abutment, EW-End Wingwall, CO-Culvert Outlet, and PR-Pier. No prefix generally indicates the element is part of the superstructure.

Inspection Notes

General Notes

1. The BIN plate is located on the Begin Abutment Stem in the center and is in OK condition (Photo 1).
2. There is no end approach nor end wingwall item for this bridge structure. The items at the end side of bridge are rated under Begin Approach and Begin Wingwall for BIN 1076620.
3. The reinforced concrete rigid frame has a concrete pavement on top of it without fill. Therefore, the concrete pavement is assessed as wearing surface.
4. A minimum of 20% area of the underside of the concrete slab was sounded and no loose concrete was found.
5. Stone ringstones and stone veneer at all Abutment Wingwalls were inspected and no loose stones were found.
6. Vertical Clearance sketch is attached.
7. Standard Photos have been updated where appropriate.
8. Beyond the Begin Approach, the right catch basin is partially clogged. However, the bridge Begin Approach is sloped away from the bridge and no water ponding was observed at the approach side. There is no safety hazard for this condition at this time. Previously NSCO was issued for this condition. See photo 7.
9. Two NSCOs were issued during this inspection.

Element Condition Notes

	TQ	CS-1	CS-2	CS-3	CS-4	CS-5
Span 1: 38 - Reinforced Concrete Slab	3323	499	2629	195	0	0

Condition State 3 Note

Referenced Photo(s): 2, 3

Referenced Sketch(es): None

Span 1, the left fascia ringstones exhibit a 15' (L) x up to 1/4" (W) horizontal crack near midspan. The ringstones surrounding this crack sound solid (Photo 2).

Additionally, the underside of the concrete slab exhibits scattered fine longitudinal cracks with a build-up of efflorescence (Photo 3).

	TQ	CS-1	CS-2	CS-3	CS-4	CS-5
Span 1: 38 - Reinforced Concrete Slab-510 - Wearing Surfaces	2821	2528	268	25	0	0

Condition State 3 Note

Referenced Photo(s): 4, 5

Referenced Sketch(es): None

Span 1 reinforced concrete rigid frame has a concrete pavement on top of it without fill. Therefore, the concrete pavement is assessed as wearing surface. NBI Deck is rated based on the condition of the concrete wearing surface. The wearing surface has a 1 SF x 1.5” deep spall on the left edge of the center lane near midspan (Photo 4) and a 10' (L) x 1' (W) uneven asphalt patch in the center lane near the begin abutment (Photo 5).

	TQ	CS-1	CS-2	CS-3	CS-4	CS-5
Span 1: BA215 - Reinforced Concrete Abutment	56	47	5	4	0	0

Condition State 3 Note

Referenced Photo(s): 6

Referenced Sketch(es): None

The begin abutment stem has 3 SF x 1.5” deep spall at the right end and a 1/2 SF x 1” deep spall near the left end, both with an exposed rebar. The area surrounding the spall at the right end of the abutment is partially surrounded by hollow sounding concrete which is stable during the inspection.

	TQ	CS-1	CS-2	CS-3	CS-4	CS-5
Span 1: 334 - Masonry Bridge Railing	124	62	60	2	0	0

Condition State 3 Note

Referenced Photo(s): 10

Referenced Sketch(es): None

Span 1, the interior face of the Left masonry bridge railing near the Begin exhibits full height vertical crack. Railing was stable during the inspection.

Non-Structural Condition Observations

Category: APPROACH - Railing Quantity: 45 Unit: ft

Referenced Element(s): NONE

Referenced Photo(s): 8
Referenced Sketch(es): 3

Beyond the Begin Approach, at approximately 60' from the Begin Abutment, the right box beam guide railing exhibits ten consecutive disconnected and bent posts. Also, the horizontal box beam guide railing is deflected down. There is no immediate safety hazard for this condition at this time.

The remaining guide railings in the approaches are in good condition. This is a previous NSCO.

Category: APPROACH - Other -Light Pole Quantity: 1 Unit: ea

Referenced Element(s): NONE

Referenced Photo(s): 9
Referenced Sketch(es): 3

Light post, by the Left of Begin approach, exhibits missing access cover with exposed electric wires (photo 9). This location is in non-pedestrian area and there is no immediate safety hazard for this condition at this time.

A new NSCO was issued for this condition.

Inspection Photographs

Attachment Description:
Location: Begin Abutment; Looking Back. BIN Plate in OK condition. Ref. General Comments.

Photo Number: **1** Photo Filename: **22SH0119_6537.JPG**

Attachment Description:
Location: Left Fascia near midspan; Looking Back and Right. Horizontal crack in ringstones.

Photo Number: **2** Photo Filename: **22SH0119_6547.JPG**

Photo Number: **3** Photo Filename: **22SH0119_6552.JPG**

Attachment Description:
Location: Underside of Concrete Slab, Right Side; Looking Right. Longitudinal crack with build-up of efflorescence.

Photo Number: **4** Photo Filename: **22SH0118_6505.JPG**

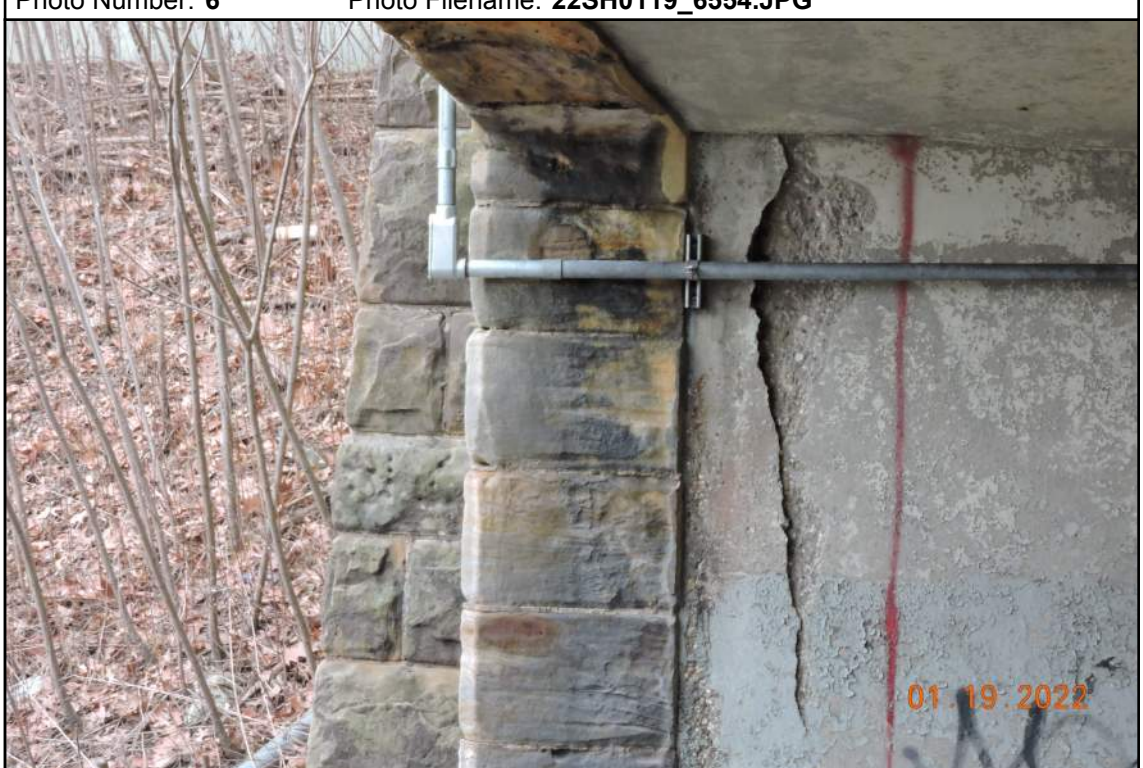
Attachment Description:
Location: Span 1, Wearing Surface, Center Lane near Midspan; Looking Down and Left. Spall near construction joint.

Attachment Description:
Location: Span 1, Wearing Surface, Center Lane near Begin Abutment; Looking Down and Left. Uneven asphalt patch.

Photo Number: **5** Photo Filename: **22SH0119_6504.JPG**

Attachment Description:
Location: Begin Abutment, Right Side; Looking Back. Spall with exposed rebar and hollow sounding concrete.

Photo Number: **6** Photo Filename: **22SH0119_6554.JPG**



Attachment Description:
Location: Beyond Begin Approach, Right catch basin; Looking Back. Partially clogged catch basin.

Photo Number: **7** Photo Filename: **22SH0119_6520.JPG**

Attachment Description:
Location: Beyond Begin Approach, Right box beam guide railing: Looking Right. Disconnected support posts and deflected railing. Ref. NSCO

Photo Number: **8** Photo Filename: **22SH0118_6515.JPG**

Attachment Description:
Location: Light post, by the Left of Begin approach, exhibits missing access cover with exposed electric wires, Looking ahead. Ref. NSCO

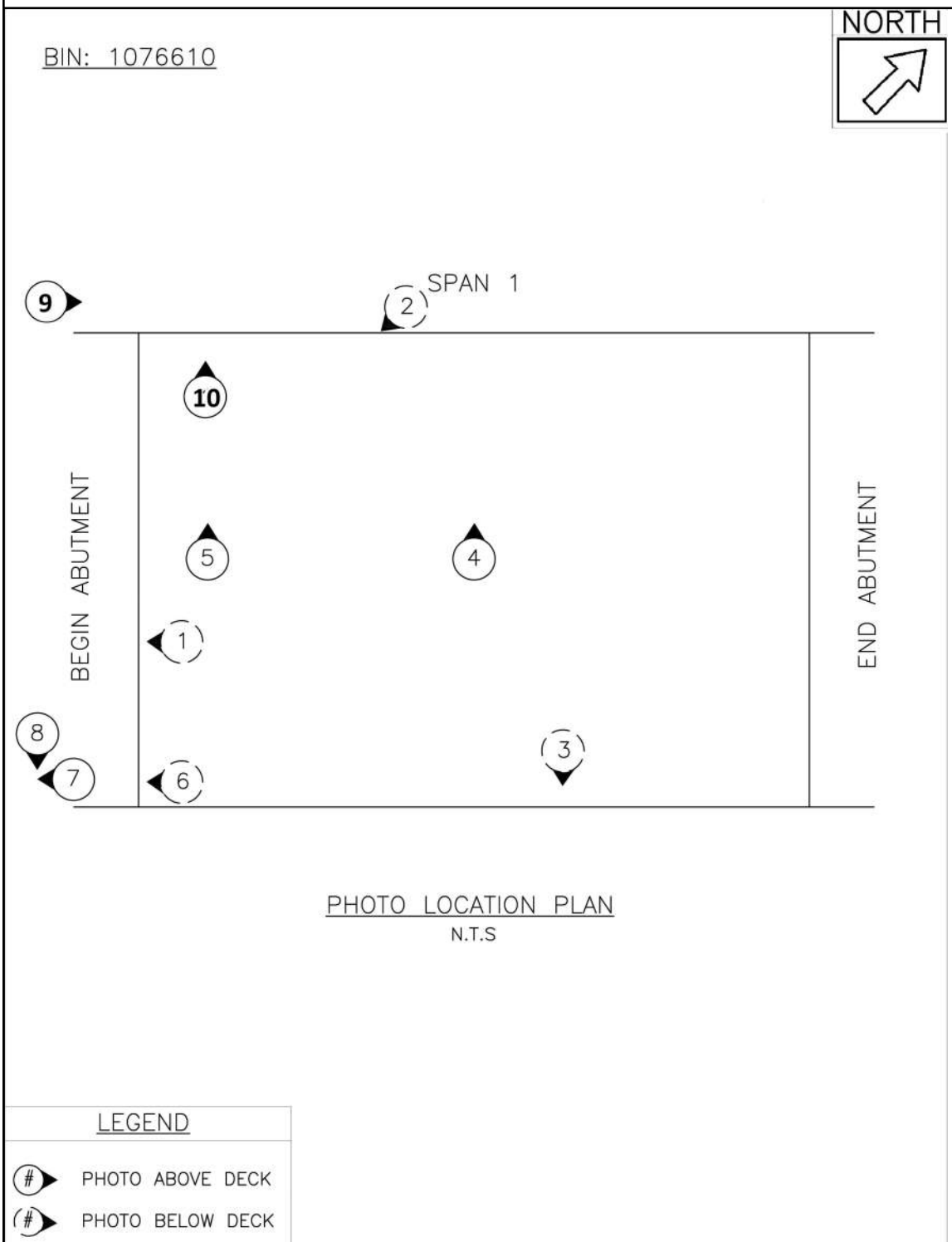
Photo Number: **9** Photo Filename: **22SH0119_6523.JPG**

Attachment Description:
Location: Interior face of the Left masonry bridge railing near the Begin abutment, Looking toward Left, full height vertical crack.

Photo Number: **10** Photo Filename: **22SH0118_6508.JPG**

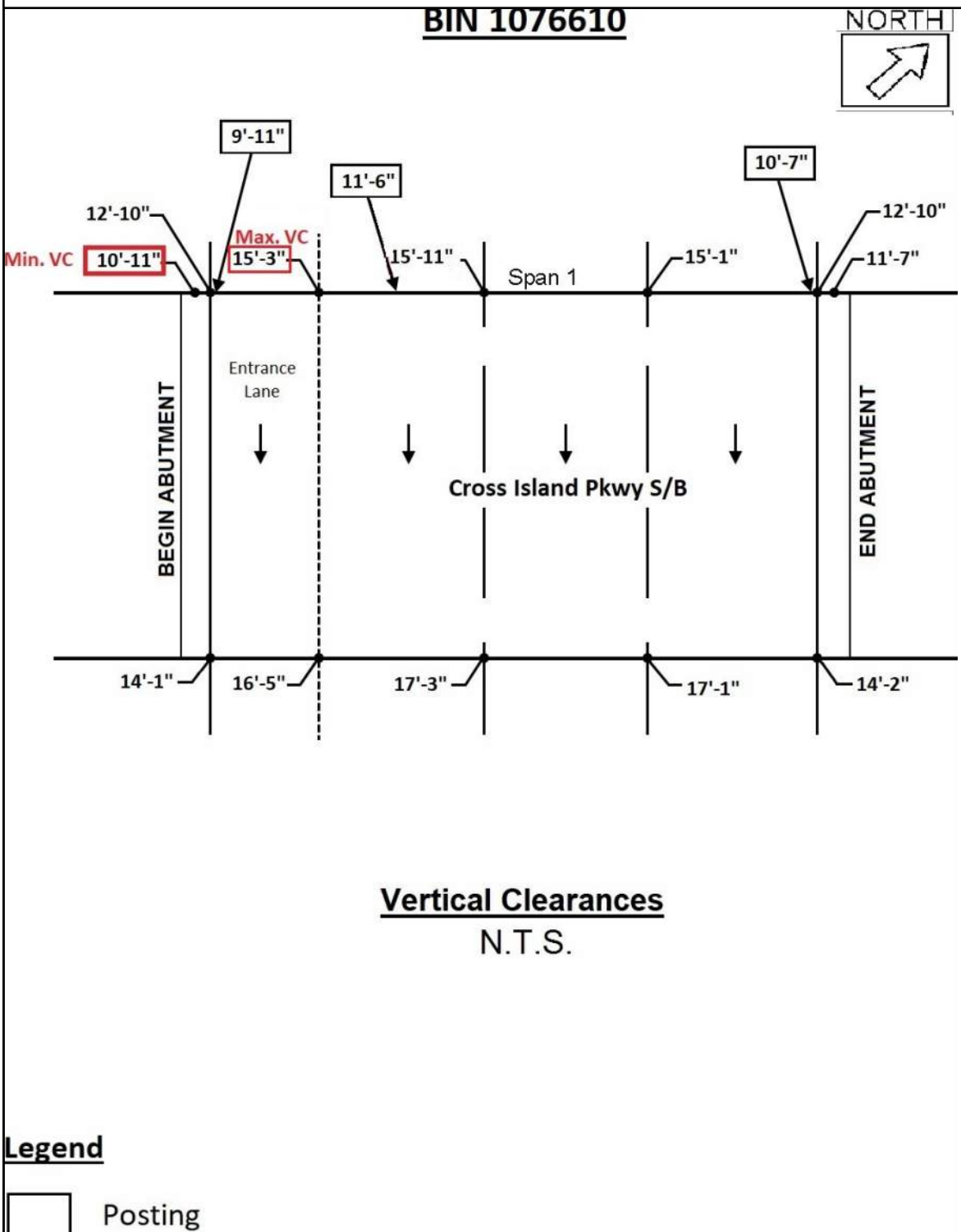
Inspection Sketches

Sketch Number: **1** Sketch Filename: **22_Photo Location Plan.jpg**



Sketch Description: 22 Photo Location Plan

Sketch Number: **2** Sketch Filename: **Vertical Clearances Plan.jpg**



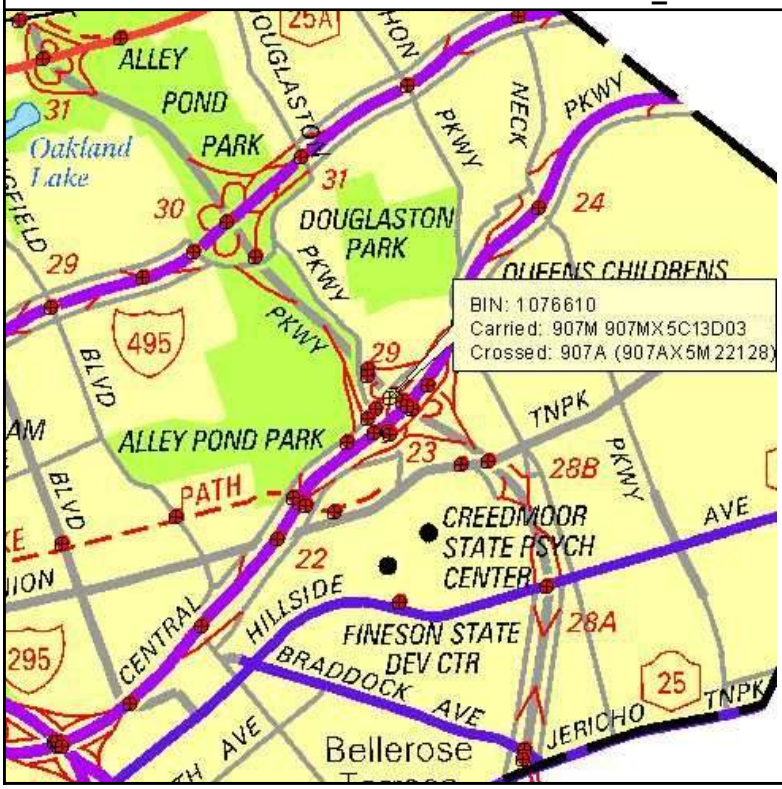
Sketch Description: 22 Vertical Clearance Plan

Sketch Number: **3** Sketch Filename: **22_NSCO Location Plan.jpg**

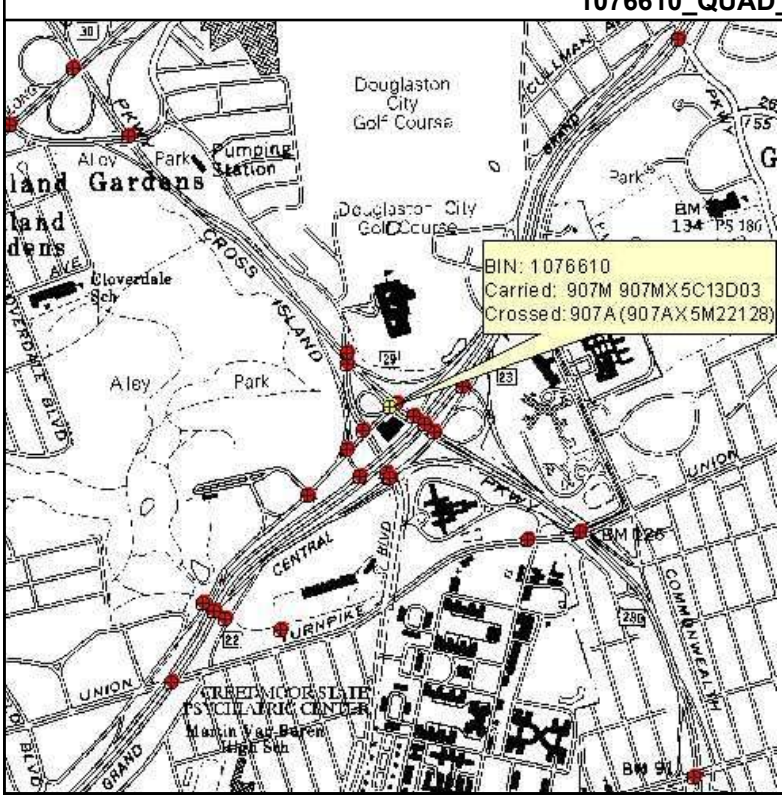
Sketch Description: 22 NSCO Location Plan

Standard Photographs

1076610_LOCATION_MAP.JPG



1076610_QUAD_MAP.JPG



AbutmentBegin.JPG

AbutmentEnd.JPG

ApproachBegin.JPG

ApproachEnd.JPG

ElevationLeft.JPG

ElevationRight.JPG

F2CrossedLeft.JPG

F2CrossedRight.JPG

FramingSpan1.JPG

VCF2CrossedSB.JPG

VCF2CrossedSB2.JPG